

# Technology GURU BD

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## ***Experiment: Humidity with Thinkspeak***

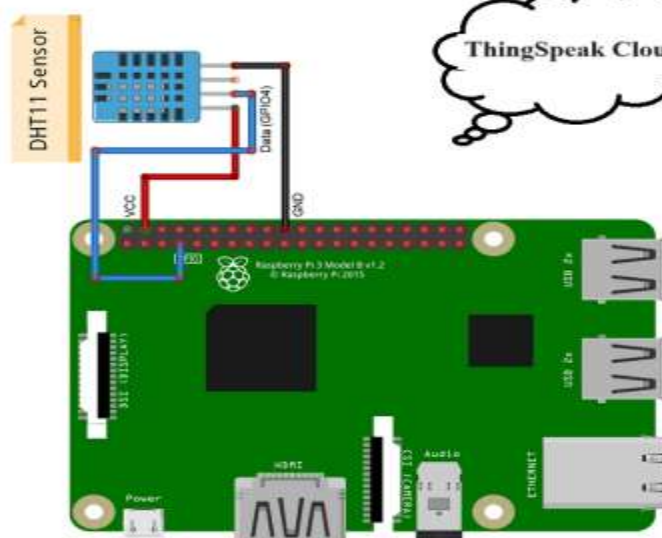
The DHT 11 has 3 Pins. Pin 1 is VCC, Pins 2 is Data, Pin 3 is GND

- Connect DHT 11 Pin 1 to 3.3v
- Connect DHT 11 Pin 2 to Raspberry Pi Pin 16/GPIO 23 and connect a 4.7 or 10k resistor from DHT 11 Pin 2 to DHT Pin 1
- Connect DHT 11 Pin 3 to Ground

The photo resistor has 2 pins

- Connect one pin to 3.3.v
- Connect the Other Pin to Raspberry Pi Pin 18/GPIO 24
- Connect a 1uF Capacitor to the same pin that the photo resistor is connected to on GPIO24. The Ground (White Stripe) side of the capacitor should go to Ground.

### **Circuit Diagram:**



Raspberry Pi Interface with DHT-11 Sensor and Raspberry Pi is connected to the cloud

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## Code window:

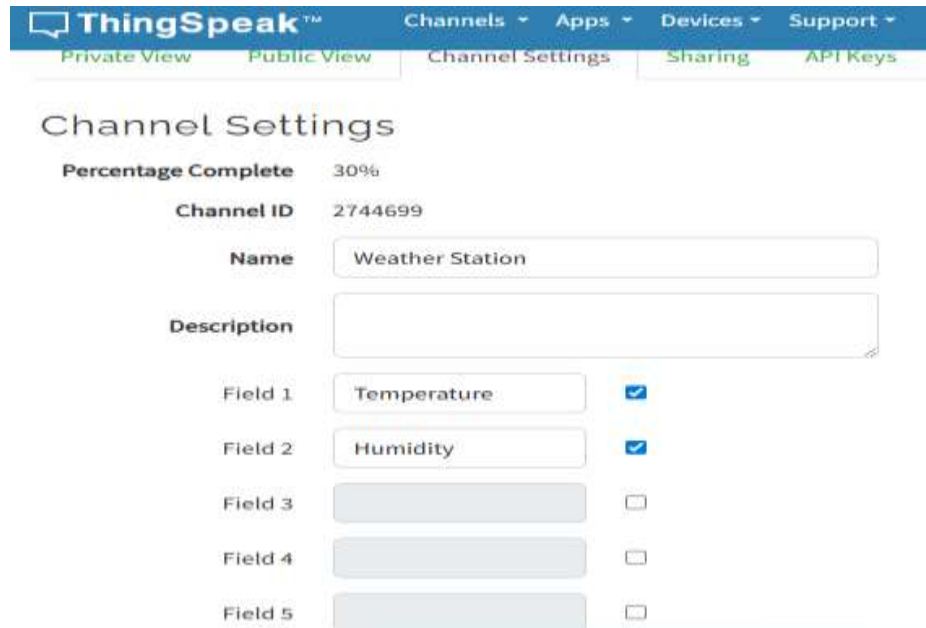
```
humidity_thingspeak.py
1 import Adafruit_DHT
2 #import os.sys
3 from time import sleep
4 import requests
5 import RPi.GPIO as GPIO
6 baseUrl="https://api.thingspeak.com/update?api_key=6VB7JFC79LDVKW5J"
7
8 SensorPin = 17
9
10 while True:
11     try:
12         print("Program is running")
13         humi, temp = Adafruit_DHT.read(Adafruit_DHT.DHT11,SensorPin)
14         if(humi>0) and (temp>0):
15             print(humi)
16             print(temp)
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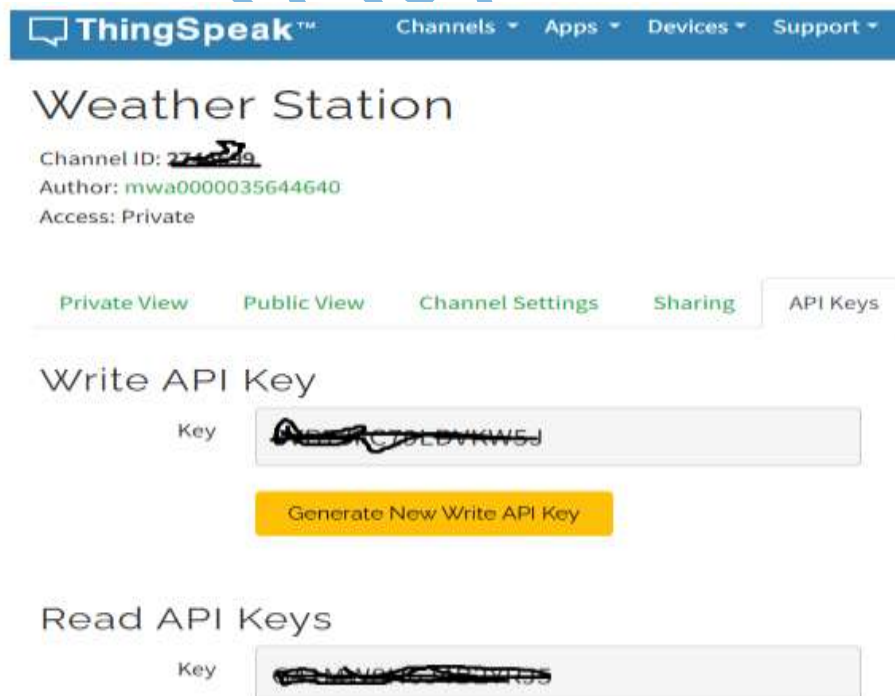
Engr. Osman Billah, B.Sc. Engr. EEE, M.Sc. Engr CSE, PhD Researcher

sleep(5)

## How to create channel in Thingspeak



The screenshot shows the 'Channel Settings' page for a channel named 'Weather Station'. The page has a blue header with the Thingspeak logo and navigation links: Channels, Apps, Devices, and Support. Below the header, there are tabs for Private View, Public View, Channel Settings (selected), Sharing, and API Keys. The main content area shows the channel's progress (30% complete), its ID (2744699), and its name (Weather Station). There are input fields for a description and five fields for data. Field 1 is 'Temperature' and Field 2 is 'Humidity', both with checkboxes checked. Fields 3, 4, and 5 are empty with unchecked checkboxes.



The screenshot shows the 'API Keys' page for the 'Weather Station' channel. The page has a blue header with the Thingspeak logo and navigation links: Channels, Apps, Devices, and Support. Below the header, there are tabs for Private View, Public View, Channel Settings, Sharing, and API Keys (selected). The main content area shows the channel's name (Weather Station), its ID (2744699), the author (mwa0000035644640), and the access level (Private). There are two sections: 'Write API Key' and 'Read API Keys'. The 'Write API Key' section has a text input field with a key (a long alphanumeric string) and a yellow button labeled 'Generate New Write API Key'. The 'Read API Keys' section has a text input field with a key (a long alphanumeric string).

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Output:

